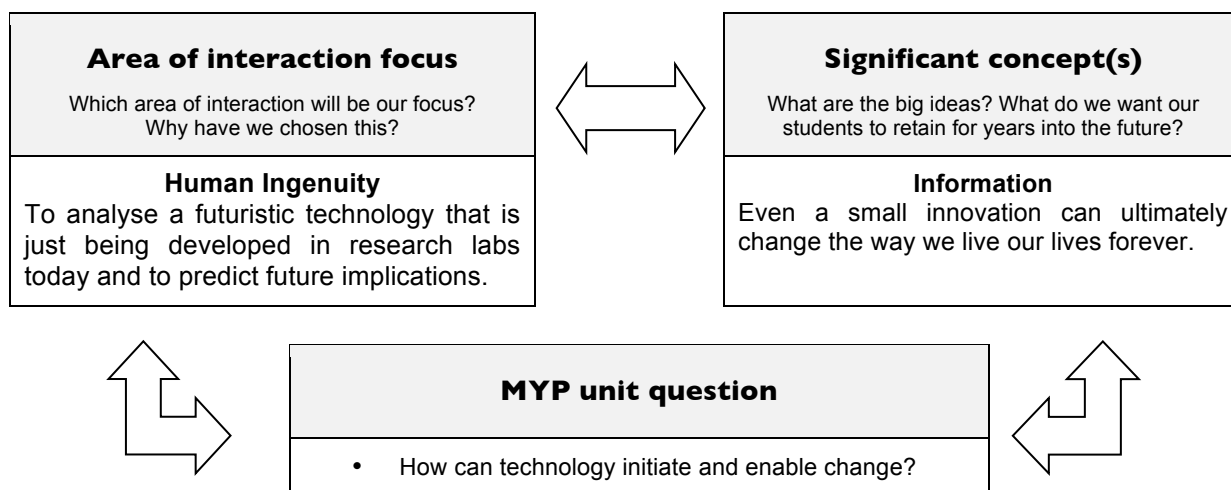


MYP unit planner

Unit title	Design Your Own Futuristic Technology
Teacher(s)	Paul McKenzie (adapted from colleague, Brian Gorodetsky's plan)
Subject and grade level	MYP Technology, Year 2; GRADE 7
Time frame and duration	6 Weeks

Stage I: Integrate significant concept, area of interaction and unit question



Assessment

What task(s) will allow students the opportunity to respond to the unit question?

What will constitute acceptable evidence of understanding? How will students show what they have understood?

- Students will watch a YouTube video about a controversial scientific breakthrough "brain control", in which monkeys' minds are interfaced to a computer resulting in the monkeys being able to control a mechanical arm via thoughts alone. The students will write a two-paragraph reflection on the ethics of the experiment and then comment on the potential impact of such a breakthrough. The reflection is posted on their online design folders.
- After the reflection, students compose a one-page investigation on the topic "brain-controlled devices" and learn how to use Google scholar and the EBSCO database. Students must cite at least 5 resources using MLA formatting. This investigation is posted on their online MYP design folders and then embedded in their Technology blogs.
- Students extend their investigation and make it their own by working in groups of four to invent a prototype technology using "brain control" with the focus on creating a successful company. Students will take on real roles in a fictitious company they will form to design: A) prototype B)

<p>company logo C) informative company website D) video commercial advertising their technology</p> <p>4. All steps in their design process (investigation, design, planning, creation and evaluation) will be documented in their online design folders and blog.</p>
Which specific MYP objectives will be addressed during this unit?
<p>Students will be assessed on the following sections of the design cycle:</p> <ol style="list-style-type: none"> 1) Investigation 2) Design 3) Planning 4) Create 5) Evaluate 6) Attitudes to Technology <p>The teacher's focus will be to highlight the importance of iteration in the design cycle – you can always go back and re-evaluate and change as long as it is justified.</p>
Which MYP assessment criteria will be used?
<p>A modified version of the MYP year 5 criteria will be applied whereby assistance is given to help the students contrive their evaluations and prototype designs.</p>

Stage 2: Backward planning: from the assessment to the learning activities through inquiry

<p>Content</p> <p>What knowledge and/or skills (from the course overview) are going to be used to enable the student to respond to the unit question?</p> <p>What (if any) state, provincial, district, or local standards/skills are to be addressed? How can they be unpacked to develop the significant concept(s) for stage 1?</p>
<p>Technology content: Information: Students will harness information literacy skills to perform thorough literature searches for a creative purpose. The students will learn basic skills for becoming an inventor/entrepreneur.</p>
<p>Approaches to learning</p> <p>How will this unit contribute to the overall development of subject-specific and general approaches to learning skills?</p>
<p>Information literacy:</p> <ol style="list-style-type: none"> 1) Learn to use online research databases. 2) Learn to reference/cross-reference sources. 3) Learn to create websites, download images, modify images and post images while attributing sources. <p>Organization, Collaboration, Communication: Students will work in groups of four to invent their dream technology. They will be responsible for bringing materials to class and working collaboratively and effectively within resource and time limits. Groups will network via the IBVC (International Baccalaureate Virtual Community) to get feedback and advice on their products and design cycle from students within the school and hopefully in IBO schools around the world. The IBVC is appropriate in this situation due to the specific needs of an audience knowledgeable in the MYP Design Cycle. Students will create online surveys to gauge responses to their prototypes and advertising to inform any further necessary iteration.</p>

Thinking and Problem-solving: The goal is to design a hypothetical technology and bring it to life (simulated). The technology should follow rational developments to result in a realistic product (concept & prototype) for improving the human condition. The concept of iterative design will be stressed whereby students are prompted to assess and re-assess their design throughout the design cycle.

Creativity and Innovation: This is in fact the focal point of the project and students are encouraged to incorporate a diverse set of social media applications and software during the process. The students will make video commercials or Prezi presentations (or additional artefacts via discovered applications) and gain experience in designing graphic presentations.

Learning experiences

How will students know what is expected of them? Will they see examples, rubrics, and templates?

How will students acquire the knowledge and practise the skills required? How will they practise applying these?

Do the students have enough prior knowledge? How will we know?

Teaching strategies

How will we use formative assessment to give students feedback during the unit?

What different teaching methodologies will we employ?

How are we differentiating teaching and learning for all? How have we made provision for those learning in a language other than their mother tongue? How have we considered those with special educational needs?

- Students will co-design the PBL rubric. This will encourage a sense of ownership and a more authentic understanding of expectations.

- Students will be shown various examples of start-up companies that are trying to popularize “brain control” technologies. Various YouTube videos will be shown to gain ideas for design and construction of their prototypes.

- Students will explore useful applications for planning, presentation, website design, graphic design, and video editing. When groups and individuals find resources they think will help other groups, they will be encouraged to present short tutorials to the class during sharing sessions.

- This is a Problem-Based Learning environment - student-directed, teacher as facilitator.

- Students will use their self-managed and online design folders to log their learning and design progress. These folders are accessible from home as well as school. Emphasis is on the learning and design process over the final products (website, video commercial, prototype).

- Design/construction will take-place in class and physical elements of the projects will remain in the school to facilitate daily feedback from the instructor.

- Students must pass checkpoints for the design cycle before they will be allowed to build their prototypes and websites. These are student defined during the rubric co-creation stage.

- Students with EAL (English as Additional Language) needs will have at least one language mentor in each group. Students with motivational and organizational challenges will be grouped with stronger students for modelling and mentorship. The teacher will establish groupings in advance in order to facilitate these needs.

Resources

What resources are available to us?

How will our classroom environment, local environment and/or the community be used to facilitate students' experiences during the unit?

- (a) EBSCO database
- (b) Inspiring “brain control” YouTube videos (links are hosted on the class Moodle page)
- (c) Google Sites
- (d) Prezi

- (e) LogoMaker
- (f) Adobe Photoshop Software
- (g) Glue guns, flip camera and basic building supplies in the DT classroom.

On-going reflections and evaluation

In keeping an on-going record, consider the following questions. There are further stimulus questions at the end of the “Planning for teaching and learning” section of *MYP: From principles into practice*.

Students and teachers

What did we find compelling? Were our disciplinary knowledge/skills challenged in any way?

What inquiries arose during the learning? What, if any, extension activities arose?

How did we reflect—both on the unit and on our own learning?

Which attributes of the learner profile were encouraged through this unit? What opportunities were there for student-initiated action?

Possible connections

How successful was the collaboration with other teachers within my subject group and from other subject groups?

What interdisciplinary understandings were or could be forged through collaboration with other subjects?

Assessment

Were students able to demonstrate their learning?

How did the assessment tasks allow students to demonstrate the learning objectives identified for this unit? How did I make sure students were invited to achieve at all levels of the criteria descriptors?

Are we prepared for the next stage?

Data collection

How did we decide on the data to collect? Was it useful?

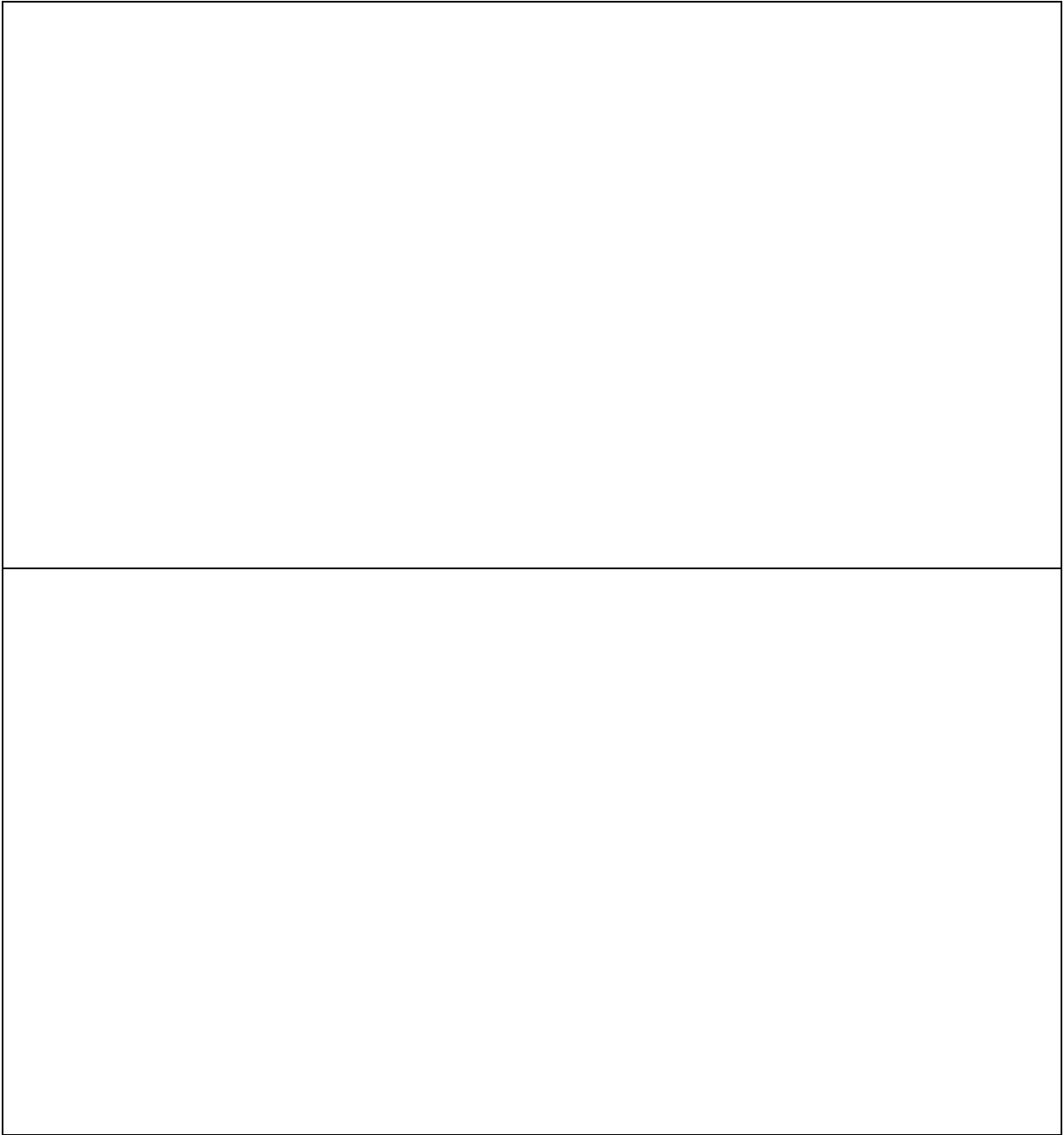


Figure 12